UNITED S[redacted]S ENVIRONMENTAL PROTECT[redacted]GENCY

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MAJOR

DATE: September 16, 1981

SUBJECT: NPDES Compliance Monitoring Report

RECEIVED
OCT 20 1981
6AEP

FROM: L. Frank Mayhue, P.E.
Chemical Engineer, Ada Branch 6SA-A

TO: 6SA-S

THRU: Chief, Ada Branch 6SA-A

An NPDES reconnaissance compliance inspection was conducted at the following location:

Name: Fansteel Metals — Permit No. OK0001643

Address: #10 Tantalum Place, Muskogee, Oklahoma 74401 — Date: 9/8/81

Fansteel Metals is considered a refractory metals manufacturer -- metals which are highly resistant to corrosion and heat. Products are tantalum and niobium pentoxide. The production and purification process embraces counter-current solvent extraction. Primary solvents or chemicals, used in the extraction of the metals appear to be hydrofluoric acid, sulfuric acid, and methy isobutyl ketone (MIBK). Crude niobium is evidently treated with anhydrous ammonia for conversion to niobium pentoxide. The pentoxide is then water washed and calcined. Tantalum is purified from the crude state by contacting with potassium fluoride to produce the potassium salt of tantalum fluoride, then centrifuged and water washed and dried. Other purification steps to the tantalum metal include pulverizing, water wash, potassium hydroxide wash, treatment with hydrochloric and hydrofluoric acids, water and then dried.

The plant utilizes about eight basins or ponds for holding or treatment of wastes (see sketch). Several areas of concern should be brought out for consideration or correction:

1) Pond #3 (acid residual) is lined and equipped with a french drain system which drains to a manhole about 60 or 70 feet in a northeasterly direction from the basin. The manhole is equipped with a pump to return the drainage to pond #3 or to the plant treatment system. However, the manhole is also equipped with a line to the Arkansas River to presumably prevent the manhole from overflowing. It is recommended that Fansteel be requested to plug this line permanently to preclude the possibility of acid waste going to the river. I have already recommended to the plant manager that this be done.

2) Waste lime from the plant treatment system is piled adjacent to and south of basin #2 (see sketch). It is possible that this lime with its contaminates could contaminate run-off from the plant yard to the river. It is recommended that this waste lime be analyzed by Fansteel to determine if it does, in fact, contain harmful or hazardous substances. At any rate the lime itself should be disposed of or contained in a basin to prevent the possibility of run-off contamination.

see 11/04/81 RDC removed substances

A representative of the Oklahoma Water Resources Board has taken samples of various plant run-off and has transmitted analytical results to Dallas. These water samples should contain water which has contacted the lime pile. However, run-off from other plant areas may mask test results.

3) During the inspection waste ore scrappings were piled in an area south of the chemical "A" building (see sketch). Run-off from the ore pile goes to the Arkansas River. The plant manager said that he plans to reprocess this waste material for its product value and stated that he would move it to building cover in the interim.

4) A stack of many (possibly hundreds) empty HF acid barrels are stored on open ground west of the reduction building (see sketch). These barrels should be disposed of in a proper manner to prevent fluoride contamination of grounds and run-off to the river. I have recommended to the plant manager that he dispose of these barrels but he stated that he didn't know what he could do with them. I suggested he consider shipping them to an approved chemical landfill but he did not appear to be receptive to my suggestion. I recommend that EPA request that Fansteel dispose of these empty barrels in a proper manner.

5) Two ground water monitoring wells are located through the north and south dikes of basin #3 (see sketch). During the recent Fansteel inspection by the state, the inspector reportedly saw the analytical results of water from several other wells, so there is good reason to know other monitoring wells exist on or around the plant site. The state inspector asked the plant manager for copies of the analytical results from the wells -- the manager refused to respond. Therefore, during my inspection, I asked the plant manager for this same information. On Wednesday, September 9, the manager called corporate management about my request for the data but a decision was made to refuse to reveal this information to EPA. The manager stated that the reason for the company's refusal to give me the information was that if the company responded to my request then EPA would want additional information, then more information, then more and more.

I recommend that EPA require Fansteel to reveal the number of monitoring wells within or without its Muskogee plant boundaries and also furnish information concerning well water analysis. In lieu of this, EPA should require Fansteel to reveal the number and location of all monitoring wells and supply samples of the water to EPA for independent analysis (see Item 6 below).

6) Fansteel's NPDES permit effluent limitations are somewhat unrealistic for this plant. BOD analysis has no real meaning insofar as Fansteel's wastewater is concerned. It is recommended that Fansteel's NPDES permit be reissued with the following parameters:

Flow	COD	TSS	Sulfates
Temperature	TOC	TKN	Fluorides

In addition, PART III - OTHER REQUIREMENTS, should be changed to require that water analysis from all monitoring wells be reported at six month intervals, etc.

An NOD was not issued.

Attachments